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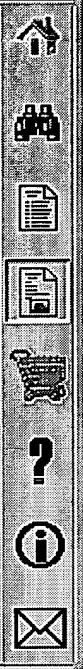
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US4585572 [Biblio](#) [Desc](#) [Claims](#)

Reversible phase change composition for storing thermal energy

Patent Number: US4585572

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Inventor(s): LANE GEORGE A (US); TEOT ARTHUR S (US); ROSSOW HAROLD E (US)

Applicant(s): DOW CHEMICAL CO (US)

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Abstract

A reversible liquid/solid phase change composition for storing thermal energy. The composition comprises at least one hydrated inorganic salt selected from a salt or mixture of salts that are subject to segregation of its chemical components during repeated freezing and thawing cycles, and a surface active thickening agent in the form of a cationic surfactant and selected from an amine, salts of the amine, or a quaternary ammonium salt of the amine, wherein the thickening agent is present in the hydrated salt in an amount sufficient to form a micelle structure throughout the hydrated salt to prevent such segregation.

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קסה לפטנץ

Application for Patent

73138

מספר :
Number

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הוקדם/נדחת

50874/84

ו' (שם המבקש, סענו ולגבי נוף מאוגד - מקום התאגידות)
I (Name and address of applicant, and in case of body corporate-place of incorporation)

THE DOW CHEMICAL COMPANY,
a Delaware Corporation,
of 2030 Dow Center,
Abbott Road,
Midland, Michigan 48640,
U. S. A.

Scots

העברת מאת הממציאים על אמצעה מכון
Assignment of an invention by the inventors
Owner, by virtue of
1. George A. Lane 2) Arthur S. Teot 3) Harold E. Rossow

1. George A. Lane 2) Arthur S. Teot 3) Harold E. Rossow

הערובה בעלת חילוץ פזה הניכון להפיכת לאחסון אנרגיה חרמית.

בָּרְבִּית
(Hebrew)

REVERSIBLE PHASE CHANGE COMPOSITION FOR STORING THERMAL ENERGY

(באנגלית) (English)

hereby apply for a patent to be granted to me in respect thereof.

ניבקש בזאת כי ינתן לי עלייה פטנט

סמלים **בהתווות:** **תעריך**

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This from, impressed with the Seal of the Patent Office and indicating the number and date of filing, certifies the filling of the application the particulars of which are set out above.

1. A thermal energy storage material comprising at least one hydrated inorganic salt having a phase change transition temperature in the range of from greater than 0°C to 140°C, wherein said hydrated inorganic salt or mixture of salts undergoes segregation of its chemical components during repeated cycles of freezing and thawing, and a surface active thickening agent in the form of a cationic surfactant and used in an amount sufficient to form a micelle structure throughout the storage material to prevent said segregation.

2. The storage material of Claim 1, wherein said surfactant is selected from the group consisting of: (a) an amine corresponding to the formula



R_1 is at least about a C₁₆ aliphatic group which may be branched or straight chained and which may be saturated or unsaturated;